IN THE CLAIMS:

Please amend the claims as follows.

1.   (Withdrawn) A method of improving prediction accuracy of a branch prediction scheme, comprising:

        reading an individual instruction in a current set of instructions;

        fetching the individual instruction when an instruction fetch unit determines that the individual instruction is valid; and

        allowing the instruction fetch unit to use an index address for the fetched individual instruction.

2.   (Withdrawn) The method of claim 1, wherein the individual instruction is a branch instruction, the method further comprising:

        determining whether the branch instruction has been read in a previous set of instructions.

3.   (Withdrawn) The method of claim 2, further comprising:

        selectively using a fetch bundle address for a plurality of fetched individual instructions as the index address for the branch instruction based on whether the branch instruction has been read in the previous set of instructions.

4.   (Withdrawn) The method of claim 2, further comprising:

determining a proper index address to use if the branch instruction has

been read in the previous set of instructions.

5.   (Withdrawn) The method of claim 4, further comprising:

determining the proper index address by determining the fetch bundle

address the branch instruction would have used if a prior branch

instruction in the previous set of instructions had not been

mispredicted.

6.   (Withdrawn) The method of claim 1, wherein the branch prediction scheme is for

predicting an outcome of a branch instruction.

7.   (Withdrawn) The method of claim 1, wherein the index address is used to index

an entry in a branch prediction structure.

8.   (Withdrawn) The method of claim 3, wherein the fetch bundle address is an

address of a first instruction in the plurality of fetched individual instructions.

9.   (Withdrawn) The method of claim 1, wherein the plurality of fetched individual

instructions is an instruction fetch bundle.

10.   (Withdrawn) The method of claim 1, further comprising:

           using decode information for the individual instruction to determine

           whether the individual instruction is a branch instruction.

11.   (Withdrawn) The method of claim 1, further comprising:

           using pre-decode information for the individual instruction to determine

           whether the individual instruction is a branch instruction.

12.   (Currently Amended) A method of improving branch prediction accuracy,

        comprising:

        receiving a set of instructions having an assigned address;

        making a prediction for a branch instruction in the set of instructions using the

           assigned address; and

        retaining the assigned address for the branch instruction in the set of instructions;

        making a prediction for an other branch instruction in the set of instructions using

           the assigned address;

        retaining the assigned address for the other branch instruction in the set of

           instructions; and

        when the branch instruction is mispredicted,

           removing the set of instructions having the assigned address,

           receiving a second set of instructions having a second assigned address,

           recognizing a branch instruction in the second set of instructions as a

<u>branch instruction in the removed set of instructions, and</u>

<u>making a prediction for the recognized branch instruction using the</u>

<u>assigned address of the removed set of instructions.</u>

13.   (Cancelled)

14.   (Original) The method of claim 12, wherein the assigned address is a fetch bundle address.

15.   (Cancelled)

16.   (Withdrawn) A tool for improving prediction accuracy of a branch prediction scheme, comprising:

a processor for reading an individual instruction in a current set of

instructions; and
an instruction fetch unit for determining whether the individual instruction

is valid and fetching the individual instruction when the individual

instruction is valid,
wherein an index address is used for the fetched individual instruction.

17.   (Withdrawn) The tool of claim 16, wherein the individual instruction is a branch instruction, and the instruction fetch unit is further for determining whether the branch instruction has been read in a previous set of instructions.

18.   (Withdrawn) The tool of claim 17, further comprising:

a fetch bundle address for a plurality of fetched individual instructions,

wherein the fetch bundle address is selectively used as the index address

for the branch instruction based on whether the branch instruction

has been read in the previous set of instructions.

19.   (Withdrawn) The tool of claim 17, further comprising:

a proper index address is used if the branch instruction has been read in

the previous set of instructions.

20.   (Withdrawn) The tool of claim 19, further comprising:

determining the proper index address by determining the fetch bundle

address the branch instruction would have used if a prior branch

instruction in the previous set of instructions had not been

mispredicted.

21.   (Withdrawn) The tool of claim 16, wherein the branch prediction scheme is for

predicting an outcome of a branch instruction.

22.   (Withdrawn) The tool of claim 16 further comprising:

an entry in a branch prediction structure indexed by the index address.

23.   (Withdrawn) The tool of claim 18, wherein the fetch bundle address is an address

of a first instruction in the plurality of fetched individual instructions.

24.   (Withdrawn) The tool of claim 16, wherein the plurality of fetched individual

instructions is an instruction fetch bundle.

25.   (Withdrawn) The tool of claim 16, further comprising:

decode information for the individual instruction,

wherein the decode information is used to determine whether the

individual instruction is a branch instruction.

26.   (Withdrawn) The tool of claim 16, further comprising:

pre-decode information for the individual instruction,

wherein the pre-decode information is used to determine whether the

individual instruction is a branch instruction.

27.   (Currently Amended) A tool of improving branch prediction accuracy,

comprising:

a set of instructions having an assigned address; and

a branch predictor for making a prediction for a branch instruction in the set of

instructions using the assigned address,

wherein the assigned address for the branch instruction in the set of instructions is

retained, and

wherein the branch predictor is further for making a prediction for another branch

instruction in the set of instructions using the assigned address, wherein

the assigned address for the other branch instruction in the set of

instructions is retained;

a second set of instructions having a second assigned address; and

an instruction fetch unit for:

removing the set of instructions having the assigned address, and

recognizing a branch instruction in the second set of instructions as a

branch instruction in the removed set of instructions,

wherein the branch predictor makes a prediction for the recognized branch

instruction using the assigned address of the removed set of

instructions.

28.　　(Original) The tool of claim 27, wherein the address is a fetch bundle address.

29-30. (Cancelled)

31.　　(Original) The tool of claim 27 wherein the prediction made is a prediction of an

outcome of the branch instruction.

32. (Withdrawn) An apparatus for improving prediction accuracy of a branch instruction scheme, comprising:

> means for reading an individual instruction in a current set of instructions;
> means for fetching the individual instruction when an instruction fetch unit
>> determines that the individual instruction is valid; and
> means for allowing the instruction fetch unit to use an index address for
>> the fetched individual instruction.

33. (Cancelled)

34. (New) A method of processing instructions, comprising:

> receiving a current set of instructions having an assigned address;
> determining whether a branch instruction in the current set of instructions was
>> read prior to the receiving; and
> if the branch instruction was read prior to the receiving, predicting an outcome of
>> the branch instruction using an assigned address of a previous set of
>> instructions in which the branch instruction was read.

35. (New) The method of claim 34, further comprising:

> if the branch instruction was not read prior to the receiving, predicting an outcome
>> of the branch instruction using the assigned address of the current set of
>> instructions.

36. (New) A computer-readable medium comprising software instructions to:

receive a current set of instructions having an assigned address;

determine whether a branch instruction in the current set of instructions was read

prior to the receiving; and

if the branch instruction was read previously, predict an outcome of the branch

instruction using an assigned address of a previous set of instructions in

which the branch instruction was read.

37.   (New) The computer-readable medium of claim 36, further comprising software

instructions to:

if the branch instruction was not read previously, predict an outcome of the

branch instruction using the assigned address of the current set of

instructions.

38.   (New) An apparatus, comprising:

means for receiving a current set of instructions having an assigned address;

means for determining whether a branch instruction in the current set of

instructions was read prior to the receiving;

if the branch instruction was read previously, means for predicting an outcome of

the branch instruction using an assigned address of a previous set of

instructions in which the branch instruction was read.

39.   (New) The apparatus of claim 38, further comprising:

if the branch instruction was not read previously, means for predicting an

outcome of the branch instruction using the assigned address of the current

set of instructions.